



-  Tribal Lands
-  Drainage Boundary



Area of Interest



Map Produced by:
ASP - Geographic Data Services
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Boulder River Drainage

Physical Description

The Boulder River is formed at the confluence of its South and West Forks (elevation 6740 feet) on the east side of the Continental Divide north of Butte. The Boulder River is about 78 long and drains an area of about 763 square miles. It flows east to Boulder, then south to its confluence with the Jefferson River near Cardwell. The upper 26% of the drainage lies within the boundary of the Beaverhead-Deerlodge National Forest. Major tributaries are Lowland, Bison, Basin, Cataract and Muskrat creeks and the Little Boulder River.

Cold Springs enters the Boulder River about 10 miles upstream of the confluence with the Jefferson River, and water quantity and quality improves significantly in this reach. In addition to supporting a quality resident fishery, large numbers of spawning brown trout from the Jefferson River enter this reach of the Boulder River during the fall.

Fisheries Management

The Boulder River is managed as a wild trout fishery, emphasizing natural reproduction. The basin is also suitable for westslope cutthroat trout recovery efforts in many locations. The Boulder River drainage contains fish species common to southwestern Montana. Native species include westslope cutthroat trout, mountain whitefish, mountain sucker, longnose dace, longnose sucker, Rocky Mountain sculpin, and white sucker. Non-native species include rainbow trout, brown trout, brook trout, and common carp. Hybrids of rainbow trout and westslope cutthroat trout are also found in the drainage.

Stocking of hatchery reared fish in the Boulder River began in the 1920s and continued through the early 1970s when wild trout management philosophies were instituted. Beginning in the late 1920s, undesignted cutthroat trout, rainbow trout, brook trout, brown trout and Arctic grayling were stocked. Between the early 1950s and early 1970s, only rainbow trout were stocked into the Boulder River drainage.

The fishing regulations for trout in the Boulder River drainage are covered by the Central District Standard regulations except for a seasonal closure in the reach of the river below Boulder Cut-Off Road (Open January 1 through September 30) to protect spawning brown trout from the Jefferson River in the lower reaches of the Boulder River. Since 2000, angler use of the Boulder River has varied from 2962 angler-days in 2001 to 11,009 angler days in 2009. However, angler use dropped to 6827 angler-days in 2020. The major tributaries (East Fork, Little Boulder, and South Fork Boulder rivers) receive little angling use annually.

Habitat

The Boulder River has a mean gradient of 34 feet per mile. At the Beaverhead-Deerlodge National Forest boundary above Basin Creek, the stream averages 47 feet in width at during peak spring flows. The river upstream from the town of Boulder has a narrow floodplain, high elevation, and steep gradient. Riparian vegetation primarily consists of willows, alders, conifers, and to a lesser extent, cottonwoods, and aspens. The river downstream from the town of Boulder has a wider floodplain through which the river

meanders, a lower elevation and a more gradual gradient. Riparian vegetation primarily consists of cottonwoods, aspens, and willows.

Flows in the river depend primarily on snowpack in the mountains, although several large springs add to the flow in the lower valley. The major use of water from the river below the town of Boulder is for agricultural purposes.

Extensive portions of the Boulder River have been relocated because of mining, agricultural, road, and railroad building activities. Portions of the upper river channel (Boulder to Bernice) were relocated to accommodate Interstate 15. In addition, bank stabilization and vegetation removal has affected other stretches.

Special Management Issues

Water Quality

Hard rock mining for metallic minerals in the Boulder River drainage was extensive in the late 1800s and early 1900s. This past mining is still affecting the river downstream from Basin Creek where heavy metals emanating from acid mine seeps and mill tailings cause a major water quality problem. Stream sediments in the river channel and floodplain contain high concentrations of zinc, copper, and lead, extending 25 miles downstream from the source areas. In the Boulder River downstream from Basin Creek, low trout abundances have been associated with high metal concentrations in the river. Fine sediments and high concentrations of toxic metals have decreased macroinvertebrate distributions and abundances in the Boulder River.

Streamflow and Fish Passage

Streamflow in the lower Boulder is severely depleted due to crop irrigation, and FWP established summer streamflow monitoring at the Cutoff Road from 2018-2022 and at the Cottonwood Bridge from 2021-2022 to quantify flow trends. Streamflow was less than FWP's instream flow reservation of 47 cfs during all of August and much of September during normal flow years, and flow was generally less than 10 cfs during dry years.

FWP, Trout Unlimited, Natural Resource Conservation Service, Huckaba Ranch, and Barrick Gold initiated a partnership in 2021 to address summer streamflow and fish passage issues. This project is intended to improve streamflow by increasing irrigation efficiency and will remove irrigation structures currently restricting upstream fish passage.

Westslope Cutthroat Trout Conservation

The Boulder River drainage is home to several conservation populations of westslope cutthroat trout providing opportunities to conserve this native species in the drainage. Populations exist in High Ore, Jack, Little Boulder, Muskrat, Red Rock, Rock, Sullivan, and Thunderbolt creeks. The short-term goal is to protect all remaining nonhybridized populations of westslope cutthroat trout. The long-term goals of cutthroat trout conservation in the Boulder River Drainage is to reverse the decline of cutthroat trout and gradually increase the presence of westslope cutthroat trout in historically occupied habitats (see

Part 1, 1.6.8(1) Westslope Cutthroat Trout and [Westslope Cutthroat Trout Conservation Strategy for the Missouri Headwaters of Southwest Montana](#)).

FISHERIES MANAGEMENT DIRECTION FOR BOULDER RIVER DRAINAGE

Water	Miles/acres	Species	Recruitment Source	Management Type	Management Direction
Boulder River and tributaries (Headwaters to Boulder)	35 miles	Brook trout, Rainbow trout, Mountain whitefish (N)	Wild	General	Maintain present abundances and sizes. Consider increasing angler harvest to reduce abundances if necessary to maintain fish growth.
		Westslope cutthroat trout (N)	Wild	Conservation	Continue native species conservation to maintain or create viable, genetically unaltered, self-sustaining populations.
Habitat needs and activities: Initiate mine reclamation to improve water quality and coordinate with USFS activities.					
Boulder River and tributaries (Boulder to Cold Springs)	35 miles	Rainbow trout, Brown trout, Mountain whitefish (N)	Wild	General	Maintain present abundances and sizes. Consider increasing angler harvest to reduce numbers if necessary to maintain fish growth.
Habitat needs and activities: Continue to improve instream flow by looking for opportunities to lease water or improve efficiency in irrigational infrastructure and methods.					
Boulder River and tributaries (Cold Springs to Confluence with Jefferson River)	10 miles	Brown trout, Rainbow trout	Wild	General	Maintain present abundances and sizes. Consider increasing angler harvest to reduce abundances if necessary to maintain fish growth. Continue to protect spawning rainbow and brown trout from the Jefferson River.
Westslope cutthroat trout conservation tributaries	28.4 miles (currently)	Westslope cutthroat trout	Wild	Conservation	Secure at risk populations of westslope cutthroat trout in tributaries through isolation from non-native fish. This may include barrier construction and fish removal. Protect or secure conservation populations in 20% of their historically occupied tributaries within the Boulder River watershed (182 miles). Utilize existing populations of unaltered fish to repopulate future projects.
High Ore Creek	2.3 miles				
Jack Creek	1.7 miles				
Little Boulder Creek	4.0 miles				
Muskrat Creek	5.7 miles				

Water	Miles/acres	Species	Recruitment Source	Management Type	Management Direction
Red Rock Creek Rock Creek Sullivan Creek Thunderbolt Creek	2.7 miles 3.5 miles 1.7 miles				